

Appl. No.: 10/736,487
Amdt. Date: September 30, 2004
Reply to Office Action of May 10, 2004

REMARKS/ARGUMENTS

Reconsideration of the application is respectfully requested. .

Claims 7, 8 and 10 have been amended.

Claims 6, 9, 11, 12 and 13 remain as originally presented.

New claims 14, 15 and 16, each dependent from claim 10.

Claims 7 and 8 were rejected under 35 USC 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The Examiner correctly points out the claim 7 and claim 8 as originally presented were dependent from canceled claim 1 and claim 2, respectively. Claim 7 and claim 8 have been amended to be dependent from claim 6 and claim 7, respectively. It is respectfully submitted that claims 7 and 8 as amended comply with 35 USC 112, second paragraph.

Claim 6 stands rejected under 35 USC 103(a) as being unpatentable over Renard, U.S. Patent 5,502,979, in view of Hansen et al., U.S. Patent 3,741,242. The Examiner cites Renard as disclosing a refrigerated display comprising an insulated cabinet 50 defining a product display area/shelves 1 maintained in a refrigerated condition at a temperature above 32 degree F and having a compartment 37 separate from the product display area 1, an evaporator 28 disposed in the compartment 37, at least one air circulator 29 disposed within the compartment 37 in cooperative relationship with the evaporator 28; and an air circulation circuit (23-26) connecting the product display area 1 and in direct air flow communication with the compartment 37. The Examiner concedes that Renard does not disclose a high-pressure drop evaporator.

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The Examiner cites Hansen et al. as teaching the use of a high-pressure drop evaporator in a refrigeration system for the purpose of running a refrigeration system, specifically citing column 3, lines 20-23. It is the opinion of the Examiner that it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to have modified the refrigerated display cabinet of Renard in view of Hansen et al. such that a high-pressure drop evaporator could be provided in order to run a refrigeration system. Applicants respectfully traverse this rejection.

As is clear from the specification, when Applicants refer to a "high pressure drop evaporator" in claim 6, the reference is to a high pressure drop on the airflow side. That is, that the airflow passing through the evaporator, i.e. over the outside surface of the tubes, experiences a high pressure drop when traversing the evaporator. In Hansen et al., the pressure drop mentioned refers to the drop in pressure of the refrigerant circulating through the evaporator tubes. The text in Hansen et al. cited by the Examiner specifically states that "very long and restrictive circuits which result in relatively high pressure drop as the refrigerant passes through the evaporator" (emphasis added). Applicants respectfully submit that Hansen et al. does not teach, and can not properly be read to teach, the use of an evaporator exhibiting a high pressure drop on the air side. Accordingly, Applicants respectfully request that the Examiner withdraw the rejection of claim 6 under 35 USC 103(a) as being unpatentable over Renard, U.S. Patent 5,502,979, in view of Hansen et al., U.S. Patent 3,741,242.

Claims 9, 11, and 13 stand rejected under 35 USC 103(a) as being unpatentable over Renard, U.S. Patent 5,502,979, in view of Hansen et al., U.S. Patent 3,741,242, as applied to claim 6, and further in view of Cur et al., U.S. Patent 5,157,941. The Examiner cites Cur et al. as teaching the use of a fin density in the range of 8 fins per

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inch in an evaporator (citing column 3, line 57). Applicants respectfully traverse this rejection.

In Cur et al., enclosure 12 is the freezer compartment of the household refrigerator and enclosure 14 is the refrigerated compartment of the household refrigerator. In the freezer enclosure 12, the air temperature would be below 32 degrees F, while in the refrigerated compartment 14 the air temperature would be above 32 degrees F. Thus, air returning from the freezer enclosure 12 would be substantially dehumidified as most moisture previously therein would already have deposited as frost within the freezer enclosure 12, not be carried back to the evaporator. Thus, the portion of the evaporator receiving the substantially dry air from the freezer enclosure 12 could be provided with fins at a high density, e.g. 8 fins per inch, without fear of frost forming thereon. Conversely, however, the air returning to the evaporator from the refrigerated enclosure 14 would be above 32 degrees F and consequently contain moisture that would tend to deposit as frost on the fins of the evaporator. Thus, the section of the evaporator receiving this relatively warmer air from the refrigerated enclosure 14 would, in accord not only with the admitted prior art practice but also the teaching of Cur et al., be equipped with fins at a low fin density, e.g. at or below 4 fins per inch. Cur et al. teaches directing the moisture-bearing air from the refrigerated enclosure 14 to the low-fin density section of the evaporator 24 and directing only the dry air from the freezer enclosure 12 to the high-fin density of the evaporator 24.

Accordingly, Applicants respectfully submit that one of ordinary skill in art would, at the time of the invention, be led by Cur et al. would be read by one of ordinary skill in the art to teach the use of a low fin density, e.g. at or below 4 fins per inch, within the evaporator of the refrigerated display case of Applicants claimed invention, a

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configuration directly contrary to that claimed by Applicants. The teaching of using a high fin density in an evaporator of a refrigerated merchandiser, not a freezer, can be found only in Applicants' own specification, not in Cur et al. Applicants respectfully request that the Examiner withdraw the rejection of claims 9, 11 and 13 under 35 USC 103(a) as being unpatentable over Renard, U.S. Patent 5,502,979, in view of Hansen et al., U.S. Patent 3,741,242, and further in view of Cur et al., U.S. Patent 5,157,941 .

Claim 12 stands rejected under 35 USC 103(a) as being unpatentable over Renard, U.S. Patent 5,502,979, in view of Hansen et al., U.S. Patent 3,741,242, and further in view of Cur et al., U.S. Patent 5,157,941, as applied to claim 9, and further in view of Navarro, U.S. Patent 6,145,327. The Examiner cites Navarro as teaching the use of a plurality of fans 16 in a refrigerated show case (citing Figure 7) for the purpose of running a refrigeration system. Applicants respectfully traverse this rejection.

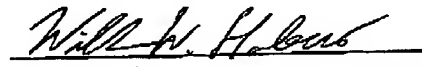
Applicants admit that Navarro discloses a refrigerated display case having a plurality of fans. However, Navarro does not teach, disclose or even suggest the use of a plurality of fans in combination with a high air side pressure drop evaporator as taught by Applicants. Further, it is respectfully submitted that Renard, as modified by Hansen et al., or Cur et al., or Navarro, taken alone or in combination, can only be read to teach a conventional low pressure drop, i.e. low fin density, fin and tube evaporator of the type characteristic of the prior art admitted by Applicants in the specification of the application, that is a low fin density heat exchanger in combination with one or a plurality of fans. The only teaching of Applicants invention of providing a high airside pressure drop evaporator in a refrigeration system, whether with one fan or a plurality of fans, is found in Applicants own specification. Applicants respectfully submit that any combination of Applicants invention from the cited art constitutes hindsight reconstruction.

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Claim 10 stands objected to as being dependent upon a rejected base claim, but allowable if rewritten in independent form including all of the limitations of the base claim. In response, Applicants have rewritten claim 10 in independent form including all the limitations of claim 9 from which claim 10 was previously dependent. Additionally, Applicants have added new claims 14, 15 and 16, each dependent from claim 10. In view of this rewriting of claim 10, Applicants respectfully submit the claim 10, and claims 14, 15 and 16, dependent therefrom, are in condition for allowance.

In summary, Applicants respectfully submit that the claims 6 – 16 distinguish over the art of record for the reasons stated herein. Accordingly Applicants respectfully request that the Examiner withdraw all rejections of the claims of record and pass the application to issue.

Respectfully submitted,



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